

REMARKS

Favorable consideration and allowance are respectfully requested for claims 1-9 in view of the foregoing amendments and the following remarks.

The Examiner is thanked for the careful review and consideration of this case and the notice that claims 2, 6 and 7 would be allowable, if put in independent form and rewritten to overcome the rejections under 35 U.S.C. § 112.

A proposed new drawing sheet 3 is submitted herewith. The proposal includes a correction to Figure 5, as described above and as suggested by the Examiner. A proposed drawing change for Figure 6 is also provided. This change shows that the swell portions 42 and recess portions 43 of the friction plate 4 are unevenly spaced. Support for this amendment is provided in the specification, for instance in paragraphs [0013] (reciting seven waves unevenly arranged); [0025] (describing seven waves arranged at non-equal intervals); [0026] (describing seven waves arranged at non-equal intervals); and Table 1 on page 9, examples 2, 4 and 6 (describing seven waves arranged at non-equal intervals). Thus, this amendment is clearly supported in the specification and does not present any new matter. Prompt entry of this proposed drawing change is earnestly requested.

Claims 6-8 have been amended to include the limitations of independent claim 5. Claim 9 is amended to delete the phrase "registered in phase." New claim 10 is similar to claim 9 and requires that the frictionally engaging elements be registered in phase. New claim 10 incorporates only limitations that previously appeared in claim 9 and accordingly introduces no new matter.

The rejection of claims 1-9 under 35 U.S.C. § 112 as indefinite is respectfully traversed.

Claims 1, 5, 6 and 9 have been amended to delete the word "small" and there can be no question regarding the scope of the claims in this regard.

Claim 3 and 8 were rejected for reciting that "at least one of said swell or recess portions on each frictionally engaging element of said at least one type and said pressing raised portions on said piston *are arranged unevenly on and along a circle*" (emphasis added). The word "unevenly" is used in its traditional sense to indicate that the intervals between the respective features are not equal. This is described in the specification, for instance, in paragraph [0026] which indicates that friction plates are provided with "waves arranged at non-equal intervals thereon." Thus, the phrase "arranged unevenly on and along a circle" in claim 8, for instance, means that the swell or recess portions are not even spaced around the frictionally engaging element plate. Stated another way, the angular interval of the swell or recess portions is not the same all the way around the friction plate.

Claim 4 is amended to recite the phrase "are provided" rather than the allegedly indefinite phrase "are arranged."

Claim 9 recites that "positions of swell portions or recess portion on said frictionally engaging elements provided with small waves are shifted in phase." This means that two types of frictionally engaging elements with small waves are provided and they must be different in shape (specifically, in the number and angular interval of the swell or recess portions). In this sense, the arrangement of the two types of frictionally engaging elements relative to each other is not relevant. On the other hand, the phrase "positions of said swell portions or recess portions of its waves are shifted in phase from positions of said swell portions or recess portions of an adjacent one of said frictionally engaging elements" refers to the positions of the frictionally engaging elements as they are arranged relative to each other. Thus, where these frictionally engaging elements are arranged on splines, the latter phrase refers to the arrangement of

the frictionally engaging element on these splines. In particular, the latter phrase requires that these frictionally engaging elements are arranged so that the swell portion or recess portions of adjacent frictionally engaging elements are out of phase.

In view of the foregoing amendments and remarks, the claims are believed to be in definite form and reconsideration and withdrawal of the rejection under 35 U.S.C. § 112 are respectfully requested.

The rejection of claims 1, 3 and 4 under 35 U.S.C. § 102 as anticipated by Figures 1 and 5 of the present application is respectfully traversed.

Claim 1 recites, among other things, that the

waves on each of said frictionally engaging elements of said
at least one type are arranged such that positions of swell
portions or recess portions of said waves are shifted in
phase from positions of said pressing raised portions of
said piston

Thus, the positions of the swell portions or recess portions of the waves are not in phase with the position of the raised portions of the piston. Paragraph [0021] of the specification makes clear that the present invention does not contemplate an arrangement where the raised portions of the piston and the swell portions or recess portions of waves are registered in phase with each other. Thus, "shifted in phase" means not in phase. More particularly, this means that raised portions of the piston do not align with the same point on each wave of the frictionally engaging elements. This may be a result of, among other things, having differing numbers of waves and raised portions, or having waves and/or raised portions that are not even spaced from each other.

Figure 1 does not show any relationship between the raised portions of the piston and the swell portions or recess portions of waves. Figure 5 shows an

arrangement where the raised portions 21 are registered in phase with the swell or recess portions.

Accordingly, Figures 1 and 5 do not show an arrangement where the raised portions of the piston and the swell portions or recess portions of waves are shifted in phase with each other. Because of this failure to teach this element of claim 1, the claim is not anticipated by these figures. Claims 3 and 4 depend from claim 1 and include the limitations thereof. For these reasons, reconsideration and withdrawal of this rejection are respectfully requested.

The rejection of claims 5, 8 and 9 under 35 U.S.C. § 102 as anticipated by Rosenberger et al. (U.S. Patent No. 3,016,119) is respectfully traversed.

Claim 5 requires, among other things, that there are two types of frictionally engaging elements. Further, the positions of swell portions or recess portions of the waves on these frictionally engaging elements are shifted in phase from positions of said swell portions or recess portions of each adjacent frictionally engaging elements provided with waves. This means that the respective swell or recess portions do not match up. Claim 8 is amended to include the limitations of claim 5. Claim 9, like claim 5, requires that the frictionally engaging elements provided with waves are each arranged so that the positions of the swell portions or recess portions of the waves are shifted in phase from positions of the swell portions or recess portions of an adjacent one of the adjacent frictionally engaging elements provided with waves.

Rosenberger describes a clutch structure with a plurality of waved driven plates 22. See Figure 1 and column 2, lines 10-17. As shown in Figure 1 of Rosenberger, the three adjacent driven plates 22 on the left are all in phase with one another. In particular, the positions of the swell portions and the recess portions align to one another on the three plates 22 on the left. The same is true for the three adjacent driven plates 22 on the right. Considering, for instance, the left-most plate 22, because it is shown as being registered in phase with the

plate 22 to the immediate right (number 2 if they were numbered consecutively left-to-right), it is not shifted in phase with an adjacent frictionally engaging element provided with waves. Thus, Rosenberger does not teach an arrangement where frictionally engaging elements are each arranged such that positions of the swell portions or recess portions of its waves are shifted in phase from positions of the swell portions or recess portions of an adjacent one of the adjacent frictionally engaging elements provided with waves

Accordingly, Rosenberger fails to teach every element of the claims. Because of this failure to teach all of the claim elements, they are not anticipated by Rosenberger.

For these reasons, reconsideration and withdrawal of this rejection are respectfully requested.

The rejection of claims 5, 8 and 9 under 35 U.S.C. § 102(a) as anticipated by Kremer (U.S. 2003/0150686 A1) is respectfully traversed.

A certified priority document was filed on December 9, 2004. Accordingly, the present application should be afforded the priority date of October 2, 2002, which predates the publication date of Kremer (August 14, 2003). Therefore, Kremer is not available as a 102(a) reference to the present application.

Moreover, Kremer fails to teach each and every element of the present claims. As described above, claim 5 requires, among other things, that there are two types of frictionally engaging elements. Further, the positions of swell portions or recess portions of the waves on these frictionally engaging elements are shifted in phase from positions of said swell portions or recess portions of each adjacent frictionally engaging elements provided with waves. This means that the respective swell or recess portions do not match up.

Kremer describes friction plates separated by separator plates. The friction plates are shown with a wave. (Consider friction plate 30 in Figure 2).

As amended, claim 8 recites all of the limitations of claim 5. Claim 8 also requires that the swell or recess portions on the frictionally engaging element provided with waves are arranged unevenly on and along a circle. Thus, the swell or recess portions are spaced unevenly. Kremer provides no teaching about the spacing of the swell or recess portions on the frictionally engaging element, much less any suggestion that the swell or recess portions are spaced unevenly.

As explained above, claim 9 includes a limitation similar to claim 5, namely that the frictionally engaging elements provided with waves are each arranged so that the positions of the swell portions or recess portions of the waves are shifted in phase from positions of the swell portions or recess portions of an adjacent one of the adjacent frictionally engaging elements provided with waves. Claim 9 further requires that the frictionally engaging elements provided with waves are different in shape (in number and angular interval).

Kremer fails to teach frictionally engaging elements having waves that are different in shape. Kremer also fails to teach a structure where adjacent friction plates are arranged as is required of claim 9.

Because Kremer fails to teach an arrangement where friction plates are disposed as required in the claims, as well as an arrangement where the frictionally engaging elements having waves are different in shape, the reference fails to teach each and every element of the claims and the claims are not anticipated by Kremer. Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

Application No. 10/676,011
Reply dated March 2, 2005
Response to Office Action dated November 2, 2005

CONCLUSION


In view of the foregoing, the application is respectfully submitted to be in condition for allowance, and prompt favorable action thereon is earnestly solicited.

If there are any questions regarding this response or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket #038769.52813US).

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Respectfully submitted,



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PROPOSED AMENDMENTS TO THE DRAWINGS:

The attached sheet of drawings includes proposed changes to Figures 5 and 6. Proposed Replacement Sheet 3, which includes Figures 5 and 6, would replace the original sheet 3 including Figures 5 and 6. In Figure 5, the label "PRIOR ART" has been added. The amendment to Figure 6 reflects that the swell portions 42 and recess portions 43 of the friction plate 4 are unevenly spaced.

Attachment: Proposed Replacement Sheet 3